

Course discipline/number/title: DH 2532: Pain Control**A. CATALOG DESCRIPTION**

1. **Credits:** 2
2. **Hours/Week:** 1 lecture, 2 lab
3. **Prerequisites (Course discipline/number):** DH 1512, DH 1521
4. **Other requirements:** DH 2533 taken concurrently
5. **MnTC Goals (if any):** NA

B. COURSE DESCRIPTION: This is a lecture and laboratory course in the basic and current concepts in the administration of local anesthesia and nitrous oxide/oxygen analgesia. The content areas include anatomical considerations, local anesthetic and nitrous oxide armamentarium, pharmacology and clinical action of local anesthetics and nitrous oxide, patient evaluation, local and systemic complications, techniques of maxillary and mandibular anesthesia and nitrous oxide administrations.

C. DATE LAST REVISED (Month, year): December, 2023

D. OUTLINE OF MAJOR CONTENT AREAS:

1. Local anesthesia armamentarium
2. Neurophysiology
3. Pharmacology of local anesthetic and vasoconstricting agents
4. Clinical action of specific agents
5. Maxillary and mandibular anatomy-nerves, blood supply, bones, muscles
6. Patient evaluation
7. Local and systemic complications
8. Alternative methods of anesthesia
9. Nitrous oxide/oxygen analgesia
10. Infection control

E. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Name and locate anatomical landmarks associated with the administration of local anesthesia injections.
2. Differentiate between pain reaction and pain perception.
3. Discuss the mechanism of nerve impulse transmission and describe how local anesthetics block nerve impulse transmission.
4. List the areas innervated by the following nerves: anterior superior alveolar, middle superior alveolar, posterior superior alveolar, greater palatine, nasopalatine, inferior alveolar, lingual, mental, incisive and buccal.
5. Demonstrate the ability to properly assemble and care for local anesthetic armamentarium.
6. Compare and contrast the different local anesthetic and vasoconstricting agents available for use.
7. Recognize systemic conditions and medications which may alter the selection of or contraindicate the use of a local anesthetic and/or vasoconstricting agents.
8. Discuss the local and systemic complications which may be associated with local and systemic complications of local anesthetic and/or vasoconstricting agents.
9. Recognize the signs and symptoms associated with local and systemic complications of local anesthetic administration.
10. Discuss how to manage complications resulting from local anesthetic administration.
11. Correctly document local anesthetic administration in the dental record.
12. Demonstrate the technique to safely and effectively administer local anesthesia injections.
13. Demonstrate the proper assembly of the equipment necessary for nitrous oxide administration.
14. Discuss the indications and contraindications for nitrous oxide sedation.
15. Describe the safety features that a nitrous oxide sedation system should include.
16. Demonstrate the technique for administering and monitoring nitrous oxide sedation.
17. Identify the indications, contraindications, advantages and disadvantages of alternative methods of local anesthesia.

F. LEARNING OUTCOMES (MNTC): NA

- G. METHODS FOR EVALUATION OF STUDENT LEARNING:** Methods may include but are not limited to:
1. Written examinations
 2. Clinical process evaluations on individual injections and nitrous oxide administration.
 3. Clinical practical examination (demonstration of injection technique)
 4. Workbook assignments/class activities
 5. Final anesthetic sheet for clinical use

- H. RCTC CORE OUTCOME(S).** This course contributes to meeting the following RCTC Core Outcome(s):
Communication. Students will communicate appropriately for their respective audiences.

Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.

- I. SPECIAL INFORMATION (if any):**
1. Current healthcare level CPR certification is needed for course.